

Chapter 5. Wetlands

Section A. The Ecosystem: What are Wetlands?

Wetlands are transitional areas between upland and deepwater aquatic systems. Wetlands come in all shapes and sizes and go by names such as marshes, swamps, scrub-shrubs, bottomlands, oxbows, or sloughs (Fig. 36). The regulatory definition of wetlands is “land that has a predominance of hydric soils, and that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of hydrophytic vegetation typically adapted for life in saturated soil conditions” [40 CFR 230.3 (t)].

All wetlands have three things in common:

- a soil that is at least periodically saturated or ponded and exhibits anaerobic conditions (offering no air or free oxygen);
- vegetation that can tolerate anaerobic conditions;
- water to create ponding or saturated conditions of the soil in the upper layer during the growing season.

The water table of wetlands can be at or near the soil surface, or it can inundate the land with shallow water. Water controls the types of plant and animal communities living in wetlands. Most plants cannot survive in waterlogged soils found in wetlands, while others need soils that remain wet over a long period of time. The presence of

certain water-loving plants is used as one indicator to identify wetlands. Two other indicators must be present to identify wetlands: hydric soil and hydrology. The U.S. Army Corps of Engineers is responsible for jurisdictional wetland determinations in Kentucky.

For a long time, wetlands were regarded as wastelands. They were excavated, converted, filled, developed, drained, or used as places to dump household or hazardous waste. Over time, these actions and attitudes resulted in losses of more than half (56 percent) of the wetlands in the lower 48 states. Kentucky alone has lost more than 80 percent of freshwater wetlands. Losses have

caused increases in downstream flood events and water quality problems. There has also been a dramatic decrease in migratory waterfowl populations.

By 1970, scientists began to realize the importance of wetlands and to identify the

many functions associated with wetland ecosystems. They provide us with cleaner water, flood protection, sources of food, recreational opportunities, and lots of beautiful wildlife to enjoy (Fig. 37 through 49). They help keep the environment in balance, sustaining a healthier watershed.

Wetlands act as a type of filter, removing materials from storm water runoff before the runoff reaches streams. Wetlands remove pollutants, including sediment, from the water column. They substantially improve water quality by sediment



Figure 36: Murphy's Pond, Hickman County